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(54) **NATURALLY DERIVED BIOABSORBABLE POLYMER GEL ADHESIVE FOR RELEASABLY ATTACHING A STAPLE BUTTRESS TO A SURGICAL STAPLER**

(57) A surgical stapler end effector comprises a staple cartridge, an anvil, and a buttress assembly. The staple cartridge comprises a plurality of staples and a deck. The staple cartridge is operable to drive the staples through the deck. The anvil is movable from an open position toward the staple cartridge to reach a closed

position. The anvil includes an underside having staple forming surface configured to receive staples driven through the deck. The buttress assembly comprises a buttress body and an adhesive material. The adhesive material comprises a polymer. The polymer is bioabsorbable. The polymer comprises a gel.

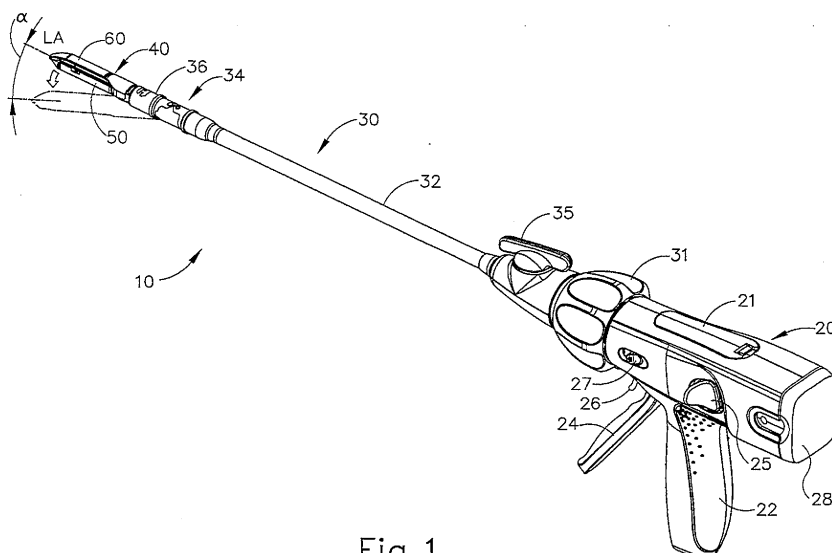


Fig.1



EUROPEAN SEARCH REPORT

Application Number
EP 16 16 2045

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 520 525 A1 (ETHICON INC [US]) 6 April 2005 (2005-04-06)	1,2,4	INV. A61B17/072 A61L24/00
Y	* paragraphs [0002], [0012], [0013]; figures 3-5c * * paragraph [0028] - paragraph [0034] * * paragraph [0039] - paragraph [0041] *	3	
X	US 2006/173470 A1 (ORAY B N [US] ET AL) 3 August 2006 (2006-08-03) * paragraph [0007]; figures 1-4B * * paragraph [0016] - paragraph [0018] * * paragraph [0028] - paragraph [0031] * * paragraph [0039] *	1,2,4	
X	US 5 752 965 A (BIO VASCULAR INC [US]) 19 May 1998 (1998-05-19) * column 10, line 49 - column 11, line 20; figures 1a,2a,5 *	1,2,4	
Y	US 6 155 265 A (HAMMERSLAG JULIUS G [US]) 5 December 2000 (2000-12-05) * column 5, line 8 - line 20 * * column 5, line 36 - line 40 * * column 6, line 66 - column 7, line 19 *	3	TECHNICAL FIELDS SEARCHED (IPC)
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A	US 2009/092651 A1 (SHAH BHAVIN [US] ET AL) 9 April 2009 (2009-04-09) * paragraph [0063] *	1-4	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 July 2016	Examiner Roudaut, Tanguy
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

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Application Number

EP 16 16 2045

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-4

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 16 16 2045

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-4

A surgical stapler end effector comprising: a staple cartridge; an anvil and a buttress assembly, the buttress assembly comprising an adhesive material comprising a bioabsorbable polymeric gel; the gel further including absorbable particulate materials solving the problem of increasing the viscosity of the gel.

2. claims: 5-20

A surgical stapler end effector comprising: a staple cartridge; an anvil and a buttress body; the end effector further comprising an injector operable to dispense adhesive or a retainer including an injection port; solving the problem of dispensing adhesive material between the buttress and the anvil or cartridge of the end effector without a need to manipulate or uninstall the buttress.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 16 16 2045

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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18-07-2016

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FORM P0459

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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